CLAIMS

1.   A method of creating a scan strategy to detect signals from at least two emitters, the scan strategy having at least one dwell, wherein a dwell indicates a frequency range, a duration of time a receiver is tuned to the frequency range, how often the receiver revisits the frequency range, and a detecting method, the method comprising acts of:

a) selecting a first dwell having a first dwell duration and a first revisit time and a second dwell having a second dwell duration and a second revisit time for evaluation, the first dwell and the second dwell having a same frequency range and a same detecting method;

b) determining a first cost of the first dwell;

c) determining a second cost of the second dwell; and

d) merging the first dwell and the second dwell to create a third dwell, the third dwell having a third dwell duration of a greater of the first dwell duration and the second dwell duration and a third revisit time of a lesser of the first revisit time and the second revisit time.

2.   The method of claim 1, further comprising acts of:

e) determining a third cost of the third dwell; and

f) determining a fourth cost by summing the first cost and the second cost.

3.   The method of claim 2, further comprising acts of:

g) comparing the third cost to the fourth cost;

h) including the third dwell in the scan strategy if the third cost is less than the fourth cost; and

i) including the first dwell and the second dwell in the scan strategy if the fourth cost is less than the third cost.

4.   The method of claim 1, wherein the act of determining the first cost of the first dwell comprises an act of dividing the first dwell duration by the first revisit time.

5. The method of claim 1, wherein the act of determining the second cost of the second dwell comprises an act of dividing the second dwell duration by the second revisit time.

6. The method of claim 2, wherein the act of determining the third cost of the third dwell comprises an act of dividing the greater of the first and second dwell durations by the lesser of the first and second revisit times.

7. The method of claim 1, wherein the act of merging the first dwell and the second dwell to create the third dwell, further comprises an act of using the same detection method of the first and second dwells in executing the third dwell.

8. A method of creating a scan strategy to detect signals from at least two emitters, the scan strategy having at least one dwell, wherein a dwell indicates a frequency range, a duration of time a receiver is tuned to the frequency range, how often the receiver revisits the frequency range, and a detecting method, the method comprising acts of:

a) specifying a first desired probability of detection to detect signals of a first emitter;

b) specifying a second desired probability of detection to detect signals of a second emitter;

c) creating a first dwell to cover the first and second emitters; and

d) determining if a probability of detection using the first dwell is greater than the first probability of detection and the second probability of detection.

9. The method of claim 8, further comprising acts of:

e) reducing a dwell duration of the first dwell if the probability of detection of the first emitter and second emitter using the first dwell is greater than the first probability of detection and the second probability of detection.

10. The method of claim 8, further comprising an act of adding the first dwell to the scan strategy.

11.   The method of claim 8, wherein the first probability of detection and the second probability of detection are specified by a user.

12.   The method of claim 8, wherein the act of creating the first dwell, further comprises an act of assigning a greater of a first dwell duration associated with the first emitter and a second dwell duration associated with the second emitter to the first dwell.

13.   The method of claim 8, wherein the act of creating the first dwell, further comprises an act of assigning a lesser of a first revisit time associated with the first emitter and a second revisit time associated with the second emitter to the first dwell.

14.   A receiver system for detecting an emitter signal using at least one dwell, wherein a dwell indicates a frequency range, an amount of time a receiver is tuned to the frequency range, how often the receiver revisits the frequency range, and a receiver detecting method, the receiver system comprising:

     a memory having stored therein a scan strategy, the scan strategy being created by a system that executes acts of:

     a) selecting a first dwell having a first dwell duration and a first revisit time and a second dwell having a second dwell duration and a second revisit time for evaluation, the first dwell and the second dwell having a same frequency range and a same detecting method;

     b) determining a first cost of the first dwell;

     c) determining a second cost of the second dwell; and

     d) merging the first dwell and the second dwell to create a third dwell, the third dwell having a third dwell duration of a greater of the first dwell duration and the second dwell duration and a third revisit time of a lesser of the first revisit time and the second revisit time.

15.   The receiver system of claim 14, wherein the system further executes acts of:

     e) determining a third cost of the third dwell; an

     f) determining a fourth cost by summing the first cost and the second cost.

16.   The receiver system of claim 15, wherein the system further executes acts of:

g) comparing the third cost to the fourth cost;

h) including the third dwell in the scan strategy if the third cost is less than the fourth cost; and

i) including the first dwell and the second dwell in the scan strategy if the fourth cost is less than the third cost.

17.   A receiver system for detecting an emitter signal using at least one dwell, wherein a dwell indicates a frequency range, an amount of time a receiver is tuned to the frequency range, how often the receiver revisits the frequency range, and a receiver detecting method, the receiver system comprising:

a memory having stored therein a scan strategy, the scan strategy being created by a system that executes acts of:

a) specifying a first desired probability of detection to detect signals of a first emitter;

b) specifying a second desired probability of detection to detect signals of a second emitter;

c) creating a first dwell to cover the first and second emitters; and

d) determining if a probability of detection using the first dwell is greater than the first probability of detection and the second probability of detection.

18.   The receiver system of claim 17, wherein the system further executes acts of:

e) reducing a dwell duration of the first dwell if the probability of detection of the first emitter and second emitter using the first dwell is greater than the first probability of detection and the second probability of detection.

19.   The receiver system of claim 18, further comprising an interface adapted to receive a scan strategy from the system.

20.   The receiver system of claim 18, wherein the receiver is mounted in a vehicle.